

Amendments to the Specification – Page 2

In a modified form and implementation of the invention, data from a larger, 15-lead input protocol is used, with such data including information from each of the eight specific leads just mentioned above, and in addition, from leads V8R, V 4R and V8.

From each lead, and regardless of the specific different ways in which different pieces of conventional ECG-collection equipment may perform, what is fed into the system is lead data from these eight leads which, in the case of each lead, is based upon 500-Hz sampling, 5-microvolts per least significant bit, 16-bit information, with simultaneous (from the different leads) samples spanning a duration preferably of about 10-seconds.

As will become apparent from Data Tables that form parts of the present invention disclosure, the unique algorithmic structure of the present invention examines different R/Q and R/S voltage-amplitude ratios that are associated variously with ECG data derived from leads I (ratio R/Q), AVL (ratio R/Q), AVF (ratio R/Q), V1 (ratio R/3 R/S), V2(ratio R/S), V4 (ratios R/Q, R/S), V5 (ratios R/Q, R/S), V6 (ratios R/Q, R/S), V4R (ratio R/S), V8 (ratio R/Q).

In addition to ECG lead information from the leads, and of the category, mentioned above, also provided as input data for implementation of the invention is certain subject- or patient-specific data, including, for example, age, gender and race.

This "block" of data is fed into the system wherein the very first step that is performed involves the detection of so-called confounders and excluders. Confounders, a term known in the art which embraces so-called conduction abnormalities and ventricular hypertrophies, include certain conditions, such as right bundle branch block (RBBB), left anterior fascicular block (LAFB) and left and right ventricular hypertrophy (LVH and RVH). Excluders include

Amendments to the Specification – Page 3

conditions such as the presence of a pacemaker, left bundle branch block (LBBB), Wolff-Parkinson-White syndrome, and others.

The presence of confounders and/or excluders fundamentally determines how and to some extent whether data interpretation and analysis proceeds, and the algorithms proposed by the present invention are designed to be capable of dealing with certain patterns of such first-level detected conditions present in the ECG input data.

Following determination of the presence and/or absence of confounders and/or excluders, and assuming that interpretation and analysis is determined to be doable by the system which employs the algorithms of the present invention, the ECG (~~and~~ and accompanying other personal data is subjected to measurements which look at various qualities of the ECG waveforms per se, and also including a look, where appropriate, and in accordance with a feature of the present algorithms, at certain vector ECG information. Based upon these selected measurements, analysis proceeds to determine, first of all, whether or not an old MI is present, and, following that, and if such a condition is detected, to perform an analysis regarding size and location.

Description of the Drawings

Fig. 1 in the accompanying single sheet of block-diagram sketches illustrates the overall system just generally discussed. The phrase "Stage I" is employed in this figure to characterize the operation of the blocks shown there which relate to the detection of confounders and excluders, and to the obtaining of measurements from input ECG data. The phrase "Stage II" is employed in Fig. 1 to characterize that region pictured therein which relates specifically to the algorithms constructed and employed according to the